**DOCKET NO.: IVOO-0004** 

**PATENT** Application No.: 10/082,928 REPLY FILED UNDER EXPEDITED Office Action Dated: October 4, 2005 PROCEDURE PURSUANT TO 37 CFR § 1.116

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:** 

1-7. (Canceled)

(Currently Amended) The storage media of claim 6, A storage media for storage of 8.

data thereon, the storage media comprising:

a first layer, the first layer being substantially transparent to a predetermined radiant

energy used for reading the data; and

a second layer formed on the first layer and being substantially opaque to the radiant energy, the second layer having a pattern comprising a plurality of holes, each of the holes having a largest dimension which is greater than a wavelength of the radiant energy, the data being stored as the presence or absence of a hole in the pattern, wherein the pattern comprises the plurality of holes arranged along a helix beginning near a center of the storage media and extending spirally outward, each successive pass of the helix being separated from a previous pass of the helix by a track pitch, wherein a distance between successive holes is in a range of about 30 to 100 nanometers.

9. (Currently Amended) The storage media of claim 6, A storage media for storage of data thereon, the storage media comprising:

a first layer, the first layer being substantially transparent to a predetermined radiant energy used for reading the data; and

a second layer formed on the first layer and being substantially opaque to the radiant energy, the second layer having a pattern comprising a plurality of holes, each of the holes having a largest dimension which is greater than a wavelength of the radiant energy, the data being stored as the presence or absence of a hole in the pattern, wherein the pattern comprises the plurality of holes arranged along a helix beginning near a center of the storage media and extending spirally outward, each successive pass of the helix being separated from a previous pass of the helix by a track pitch, wherein the track pitch is about 100 nanometers.

**DOCKET NO.:** IVOO-0004 **Application No.:** 10/082,928

Office Action Dated: October 4, 2005

PATENT REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO 37 CFR § 1.116

10. (Currently Amended) The storage media of claim 6, A storage media for storage of data thereon, the storage media comprising:

a first layer, the first layer being substantially transparent to a predetermined radiant energy used for reading the data; and

a second layer formed on the first layer and being substantially opaque to the radiant energy, the second layer having a pattern comprising a plurality of holes, each of the holes having a largest dimension which is greater than a wavelength of the radiant energy, the data being stored as the presence or absence of a hole in the pattern, wherein the pattern comprises the plurality of holes arranged along a helix beginning near a center of the storage media and extending spirally outward, each successive pass of the helix being separated from a previous pass of the helix by a track pitch, wherein the plurality of holes are circular and the largest dimension is a diameter of the circular holes, the diameter of the holes being about 50 nanometers, a distance between successive holes being about 100 nanometers, and the track pitch being about 100 nanometers.

11. (Currently Amended) The storage media of claim 6, A storage media for storage of data thereon, the storage media comprising:

a first layer, the first layer being substantially transparent to a predetermined radiant energy used for reading the data; and

a second layer formed on the first layer and being substantially opaque to the radiant energy, the second layer having a pattern comprising a plurality of holes, each of the holes having a largest dimension which is greater than a wavelength of the radiant energy, the data being stored as the presence or absence of a hole in the pattern, wherein the pattern comprises the plurality of holes arranged along a helix beginning near a center of the storage media and extending spirally outward, each successive pass of the helix being separated from a previous pass of the helix by a track pitch, wherein the plurality of holes are circular and the largest dimension is a diameter of the circular holes, the diameter of the holes being about 30 nanometers, a distance between successive holes is about 60 nanometers, and the track pitch being about 100 nanometers.

12 - 14. (Canceled)

DOCKET NO.: IVOO-0004

Application No.: 10/082,928

Office Action Dated: October 4, 2005

PATENT REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO 37 CFR § 1.116

15. (Withdrawn) A method for making a storage media having data stored thereon, the method comprising:

forming a first layer, the first layer being substantially transparent to a predetermined first radiant energy used for reading the data;

forming a second layer on the first layer which is substantially opaque to the first radiant energy; and

forming a pattern comprising a plurality of holes in the second layer, each of the holes having a largest dimension which is greater than a wavelength of the first radiant energy, the data being stored as the presence or absence of a hole in the pattern.

- 16. (Withdrawn) The method of claim 15, wherein the first layer is polycarbonate formed by a casting process.
- 17. (Withdrawn) The method of claim 15, wherein the second layer is a metalization coating formed by sputtering the metalization on the first layer.
- 18. (Withdrawn) The method of claim 15, wherein the plurality of holes are formed in a circular shape and the largest dimension is a diameter of the circular shaped holes.
- 19. (Withdrawn) The method of claim 15, wherein the pattern of the plurality of holes are arranged along a helix beginning near a center of the storage media and extending spirally outward, each successive pass of the helix being separated from a previous pass of the helix by a track pitch.
- 20. (Withdrawn) The method of claim 19, wherein the plurality of holes are formed in a circular shape and the largest dimension is a diameter of the circular shaped holes, the diameter of the holes being in a range of about 30 to 100 nanometers.
- 21. (Withdrawn) The method of claim 19, wherein a distance between successive holes is in a range of about 30 to 100 nanometers.
- 22. (Withdrawn) The method of claim 19, wherein the track pitch is about 100 nanometers.

DOCKET NO.: IVOO-0004

**Application No.:** 10/082,928

Office Action Dated: October 4, 2005

PATENT REPLY FILED UNDER EXPEDITED PROCEDURE PURSUANT TO 37 CFR § 1.116

23. (Withdrawn) The method of claim 19, wherein the plurality of holes are formed in a circular shape and the largest dimension is a diameter of the circular shaped holes, the diameter of the holes being about 50 nanometers, a distance between successive holes being about 100 nanometers, and the track pitch being about 100 nanometers.

- 24. (Withdrawn) The method of claim 19, wherein the plurality of holes are formed in a circular shape and the largest dimension is a diameter of the circular shaped holes, the diameter of the holes being about 30 nanometers, a distance between successive holes is about 60 nanometers, and the track pitch being about 100 nanometers.
- 25. (Withdrawn) The method of claim 15, further comprising forming a third layer on the second layer, the third layer being substantially transparent to the first radiant energy.
- 26. (Withdrawn) The method of claim 15, further comprising forming the storage media in a circular shape and having a data storage area having an inner diameter of about 25 millimeters and an outer diameter of about 115 millimeters.
- 27. (Withdrawn) The method of claim 15, wherein the plurality of holes are formed by x-ray lithography.
- 28. (Withdrawn) The method of claim 15, wherein the plurality of holes are formed by melting material in the second layer.
- 29. (Withdrawn) The method of claim 15, wherein the plurality of holes are formed by ablating material in the second layer.
- 30. (Withdrawn) The method of claim 15, wherein the plurality of holes are formed by a second radiant energy having a wavelength less than a wavelength of the first radiant energy.
- 31. (Withdrawn) The method of claim 30, wherein the second radiant energy is selected from a group consisting of ultraviolet light, x-rays, and electron beams.
- 32 55. (Canceled)